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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,567	03/14/2001	Kazuaki Tomita	058856/0104	1337

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WASHINGTON, DC 20007

EXAMINER

DANG, KHANH NMN

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 01/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/805,567

Applicant(s)

TOMITA, KAZUAKI

Examiner

Khanh Dang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/10/2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5, 7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5, 7, and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 2-5, 7, and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-5, 7, and 8 are directed to an apparatus. However, the essential structural cooperative relationships between elements recited in the claims have been omitted, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2-5, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi.

At the outset, it is first noted that similar claims will be grouped together to avoid repetition in explanation.

As broadly drafted, these claims do not define any structure that differs from Hayashi. With regard to claim 7 and 8, Hayashi discloses a programmable controller which executes a user program process, an I/O refresh process and a peripheral service

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process by using a same microprocessor, comprising: normal process means (2a, for example) for cyclically executing the user program process and I/O refresh process (note that every programmable controller has an I/O refresh process which is for replacing/updating the content of corresponding input data of an I/O memory with another input data) according to a normal procedure; interruption trigger generating means (OR circuit 7, for example) for generating an interruption trigger at a prescribed interval; and interruption process means (interruption routine as in Hayashi) for interrupting the user program process by the normal process means and executing the peripheral service process by a prescribed amount (periodically as in Hayashi) according to an interruption procedure (interruption routine) every time an interruption trigger is generated. With regard to claims 2 and 3, it is clear from Hayashi that the "interval" or period or predetermined time can be set or changed (see at least shown in Fig. 2 and description thereof, particularly the interruption resetting operation). With regard to claim 4, see at least column 3, lines 8-36 of Hayashi. With regard to claim 5, it is clear from Hayashi that the so-called "prescribed interval" or interruption period is the time it takes to finish the peripheral service process plus a predetermined time for another interruption operation. It is also clear that in addition to 2a, 7, and interruption routine, one can select the so-called "first mode" and a "second mode" through at least through FF 6, control input/output 8, 9. See also explanation regarding claim 1.

Claims 2, 3, 5, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yonezawa et al.

At the outset, it is first noted that similar claims will be grouped together to avoid repetition in explanation.

As broadly drafted, these claims do not define any structure that differs from Yonezawa et al. With regard to claims 1 and 6, Yonezawa et al. discloses a programmable controller which executes a user program process, an I/O refresh process and a peripheral service process by using a same microprocessor, comprising: normal process means (CPU Board 100, for example) for cyclically executing the user program process and I/O refresh process (see at least Fig. 29 and description thereof) according to a normal procedure; interruption trigger generating means (interrupt generator 24, for example) for generating an interruption trigger at a prescribed interval; and interruption process means (interruption request service process) for interrupting the user program process by the normal process means and executing the peripheral service process by a prescribed amount (can be set by a timer as in Yonezawa et al.) according to an interruption procedure (interruption routine) every time an interruption trigger is generated. With regard to claims 2 and 3, it is clear from Yonezawa et al. that the "interval" or predetermined time can be set or changed by a "timer." With regard to claim 5, it is clear from Yonezawa et al. that the so-called "prescribed interval" or interruption period is the time it takes to finish the peripheral service process plus a predetermined time for another interruption operation.

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Claims 2-5, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Flood et al.

At the outset, it is first noted that similar claims will be grouped together to avoid repetition in explanation.

As broadly drafted, these claims do not define any structure that differs from Flood et al. With regard to claims 1, 4, and 6, Flood et al. discloses a programmable controller which executes a user program process, an I/O refresh process and a peripheral service process by using a same microprocessor, comprising: normal process means (system controller 16, for example) for cyclically executing the user program process and I/O refresh process (see at least Fig. 2 and description thereof) according to a normal procedure; interruption trigger generating means (selectable time interrupt STI, for example) for generating an interruption trigger at a prescribed interval (selectable time); and interruption process means (interrupt routine) for interrupting the user program process by the normal process means and executing the peripheral service process by a prescribed amount (selectable time as in Flood et al.) according to an interruption procedure (interrupt routine) every time an interruption trigger is generated. With regard to claims 2 and 3, it is clear from Flood et al. that the "interval" or selectable time can be selected or changed. With regard to claim 5, it is clear from Flood et al. that the so-called "prescribed interval" or selectable time is the time it takes to finish the peripheral service process plus a predetermined time for another interruption operation.

Claims 2-5, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Shultz et al.

At the outset, it is first noted that similar claims will be grouped together to avoid repetition in explanation.

As broadly drafted, these claims do not define any structure that differs from Schultz et al. With regard to claims 1 and 6, Schultz et al. discloses a programmable controller which executes a user program process, an I/O refresh process and a peripheral service process by using a same microprocessor, comprising: normal process means (26) for cyclically executing the user program process and I/O refresh process (see at least Fig. 2 and description thereof) according to a normal procedure; interruption trigger generating means (27, for example) for generating an interruption trigger at a prescribed interval (interrupt interval); and interruption process means (interrupter routines) for interrupting the user program process by the normal process means and executing the peripheral service process by a prescribed amount (interrupt interval as in Schultz et al.) according to an interruption procedure (interrupter routine) every time an interruption trigger is generated. With regard to claims 2 and 3, it is clear from Schultz et al. that the "interval" or interrupt interval can be set/reset or changed. With regard to claim 4, see at least col. 10, line 56 to col. 11, line 20. With regard to claim 5, it is clear from Schultz et al. that the so-called "prescribed interval" or selectable time is the time it takes to finish the peripheral service process plus a predetermined time for another interruption operation.

Response to Arguments

Applicant's arguments filed 11/10/2003 have been fully considered but they are not persuasive.

At the outset, Applicants are reminded that claims subject to examination will be given their broadest reasonable interpretation consistent with the specification. *In re Yamamoto*, 740 F.2d 1569, 1571, 222 USPQ 934, 936 (Fed. Cir. 1984). Applicants are also reminded that claimed subject matter not the specification, is the measure of the invention. Disclosure contained in the specification can not be read into the claims for the purpose of avoiding the prior art. *In re Sporck*, 55 CCPA 743, 386 F.2d, 155 USPQ 687 (1986).

With this in mind, the discussion will focus on how the terms and relationships thereof in the claims are met by the references. Response to any limitations that are not in the claims or any arguments that are irrelevant and/or do not relate to any specific claimed language will not be warranted.

The Hayashi Rejection:

With regard to new claims 7 and 8 (with claims 2-5 stand or fall together), Applicants argued that Hayashi does not disclose "ensuring cyclic-execution of the peripheral service process for a prescribed amount of time." Contrary to Applicants' argument, it is first noted that the term "cyclically" can be found only in claim 8. Further, any interrupt process/routine only runs for a predetermined amount of time depending on a particular process. After the interrupt routine, the latch will be reset and ready for

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another interrupt routine. In another word, the interrupt routine is set/reset cyclically. Applicants also argued that OR-circuit 7 is not an interrupt trigger generating means. Contrary to Applicants' argument, in Hayashi, OR-circuit 7 provides the interrupt inputs according to the output signals of the programmable controller latched by flip-flop circuits; and clearly readable as a "interrupt trigger generating means."

The Yonezawa et al. Rejection:

With regard to new claims 7 and 8 (with claims 2-5 stand or fall together), Applicants argued that Yonezawa et al. does not disclose "ensuring cyclic-execution of the peripheral service process for a prescribed amount of time." Contrary to Applicants' argument, it is first noted that the term "cyclically" can be found only in claim 8. Further, any interrupt process/routine only runs for a predetermined amount of time depending on a particular process. It is also clear from at least the flow chart of Fig. 29 that the interrupt process is cyclical. Note that I/O device is readable as peripheral device.

The Flood et al. Rejection:

With regard to new claims 7 and 8 (with claims 2-5 stand or fall together), Applicants argued that Flood et al. does not disclose "ensuring cyclic-execution of the peripheral service process for a prescribed amount of time every time an interruption trigger is generated." Contrary to Applicants' argument, it is first noted that the term "cyclically" can be found only in claim 8. Further, any interrupt process/routine only runs for a predetermined amount of time every time an interrupt trigger is generated by the

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interrupt trigger generating means (STI) depending on a particular process. In another word, in Flood et al., the interrupt routine are set/reset cyclically. Note also that I/O device is readable as peripheral device.

The Shultz Rejection:

With regard to new claims 7 and 8 (with claims 2-5 stand or fall together), Applicants argued that Shultz et al. does not disclose "the cyclic execution of a peripheral service process." Contrary to Applicants' argument, it is first noted that the term "cyclically" can be found only in claim 8. Further, in Flood et al., interrupt routines are executed between intervals. In another word, the peripheral service process/routine is executed cyclically. Note that I/O device is readable as peripheral device.

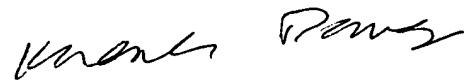
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication should be directed to Khanh Dang at
telephone number 703-308-0211.

A handwritten signature in black ink, appearing to read 'Khanh Dang', written in a cursive style.

Khanh Dang
Primary Examiner